

5. A Brief Summary of the Cambro-Ordovician Shelly Faunas of South America.

Part 2. The List of Non-Graptolite Faunas with Descriptions of Three New Genera and One New Subgenus of Trilobites.

By Teiichi KOBAYASHI.

(Comm. by H. YABE, M.I.A., Jan. 12, 1937.)

The Cambro-Ordovician fossils of South American¹⁾ continent attain a considerable number of species comprising graptolites, brachiopods, gastropods, pelecypods, and trilobites in addition to a few species of bryozoa, cephalopod, phyllocarid, conchostraca and others.

As to the graptolites the reader is referred to Bulman's²⁾ paper, while at this place, the specific list of the other faunas is given below.

Spongiae indet. (Kayser)	<i>Lingulella</i> cf. <i>ferruginae</i> Salter
Cystoid gen. et sp. undet. (Kobayashi)	<i>Lingulepis</i> (?) sp. (Hoek)
Crinoidea indet. (Kayser)	<i>Obolus</i> sp. (Kayser)
Bryozoa	<i>Orbiculoidea capinotae</i> Kozłowski
<i>Monticulipora</i> (?) <i>argentina</i> Kayser	<i>Orbiculoidea jatuncacae</i> Kozłowski
Brachiopoda	<i>Orthis boliviensis</i> Kobayashi*
<i>Acrotreta</i> cf. <i>curvata</i> Walcott	? <i>Orthis calligramma</i> Dalman
<i>Andobolus jackowskii</i> Kozłowski	<i>Orthis humboldtii</i> d'Orbigny
<i>Bistramia cochabambensis</i> (Hoek)	<i>Orthis otaviensis</i> Kobayashi*
<i>Bistramia dubia</i> (d'Orbigny)	? <i>Orthis vespertillos</i> Sowerby
<i>Bistramia elegans</i> Hoek	<i>Orthis</i> spp. (Kayser)
<i>Bistramia oboliformis</i> Kozłowski	<i>Orthothetes</i> sp.
<i>Bistramia quichuana</i> (Hoek)	? <i>Orusia lenticularis</i> (Wahlenberg)
<i>Clitambonites kayseri</i> Kozłowski	<i>Orusia putilliformis</i> (Kobayashi)
<i>Dalmanella</i> (?) sp.	<i>Orusia saltensis</i> (Kayser)
<i>Diorthis obispoensis</i> Kobayashi*	<i>Plectambonites</i> aff. <i>sericeus</i> (Sowerby)
<i>Finkelnburgia samaensis</i> Kobayashi*	<i>Plectambonites</i> (?) <i>stelzneri</i> Kayser
<i>Leptobolus insignis</i> Hall mut. <i>latus</i>	<i>Plectorthis plicatella</i> (Hall)
Ruedemann	<i>Productorthis kayseri</i> Kozłowski
<i>Lingula amygdale</i> Kozłowski	<i>Riograndella subcircularis</i> Kobayashi*
<i>Lingula attenuata</i> Sowerby	<i>Scenidium</i> sp.
<i>Lingula bolderami</i> Kozłowski	<i>Schizambon</i> sp.
<i>Lingula boliviana</i> Hoek	<i>Schizocrania</i> aff. <i>filosa</i> (Hall)
<i>Lingula ellipsiformis</i> Hoek	<i>Siphonotreta</i> sp.
<i>Lingula inornata</i> Hoek	? <i>Vellema adscendens</i> (Pander)
<i>Lingula lineata</i> Hoek	Pelecypoda
<i>Lingula muensteri</i> d'Orbigny	<i>Cleidophorus</i> (?) aff. <i>consuetus</i> Ulrich
<i>Lingula</i> cf. <i>rounaulti</i> Salter	<i>Ctenodonta</i> aff. <i>alta</i> Ulrich
<i>Lingula submargaritana</i> d'Orbigny	<i>Ctenodonta conchabambensis</i> Kobayashi*
<i>Lingula</i> spp. (Ulrich and Kayser)	<i>Ctenodonta gracilis</i> (Hoek)
<i>Lingulella</i> cf. <i>davisi</i> (McCoy)	<i>Ctenodonta iclensis</i> Kobayashi*

1) d'Orbigny (1842), Salter (1861), Kayser (1876, 1897, 1898), Balta (1897, 1898), Ulrich (1893), Newton (1901), Courty (1907), Hoek (1912), Lapworth (1917), Kozłowski (1913), Bulman (1932, 1933), Douglas (1933), and others including Kobayashi (1935, 1936).

2) O. M. B. Bulman (1931), South American Graptolites, etc. (Arkiv. för Zoologi, Bd. 22 A, Nio 3.).

- Ctenodonta iclensis angusta* Kobayashi*
Ctenodonta mesambonata Kobayashi*
Goniophorina isbergi Kobayashi*
Goniophorina otaviensis Kobayashi*
Goniophorina tambilloensis Kobayashi*
Gastropoda
Bucania mudanensis Kobayashi*
Cymbularia aff. *cultrijugata* (Roemer)
Lesueriella spp. (Kayser)
Maclurites avellanadae (Kayser)
Maclurites sarmienti (Kayser)
Maclurites stelzneri (Kayser)
Maclurites sp. (Kayser)
Oxydiscus keideli Kobayashi
Pelagiella escaryachensis Kobayashi*
Sinuities aff. *bilobatus* (Sowerby)
Conularida
Hyolithes spp. (Kayser)
Cephalopoda
Cycloceras grecicostatum Kobayashi*
"Endoceras" spp. (Hoek and Bulman)
aff. *Geisonoceras tenuistriatum* Hall
? *Lituities* sp. (Kayser)
Ormoceras bolivianum (Hoek)
Orthoceras spp. (Kayser)
Trilobita
Agnostus sp. (Kayser)
Ampyx sp. (Kayser)
Andesaspis argentinensis Kobayashi
Angelina punctolineata Kobayashi*
Apatokephalus sp. (Kobayashi)
Asaphellus (*Asaphelloides*) *americanus* (Hoek) [= *Asaphellus catamarcensis* Kobayashi]
? *Asaphus cordensis* Murchison
Asaphus cf. *nobilis* Barrande
Asaphus (?) sp. (Hoek)
Basilicus aff. *tyrannus* (Murchison)
Bathyurellus (?) *orbignianus* (Kayser)
Bathyrurus (?) *darwini* Kayser
" *Bathyrurus* " *lajensis* Kayser
Calymene (*Synhomalonotus* ?) *pompeckji* Kobayashi*
Chasmops cf. *bubbulenta* Sjorgen
Cryptolithus terryi Leith
Gallagnostus boliviensis (Hoek)
Geragnostus quadratus Kobayashi*
Geragnostus (?) *tilcuyensis* (Kayser)
Geragnostus tullbergi Kobayashi*
Hoekaspis matacensis (Hoek)
Hoekaspis mesops Kobayashi*
Homalonotus (*Brongniartella* ?) *bis-trami* Hoek
Homotelus aff. *stegops* (Green)
Hystericuroid gen. et sp. nov. (Kobayashi)
Illaenus argentinus Kayser
Jujuyaspis keideli Kobayashi
Jujuyaspis steinmanni Kobayashi
Kainella billingsi (Walcott)
Kainella conica Kobayashi
Kainella lata Kobayashi
Kainella meridionalis Kobayashi
Lakaspis apolinista (Lake)
Leiostragina inexpectans Kobayashi
Leiostragium sp. (Kobayashi)
" *Liostracus* " *steinmanni* Kayser
" *Liostracus* " *ulrichi* Kayser
Megalaspidella kayseri Kobayashi
Megalaspis (?) *boliviensis* (d'Orbigny)
? *Magalaspis* cf. *planilimbata* Angelin
Niobella sp. (Lake)
Ogyginus sp. (Lake)
Olenus (?) sp. (Kobayashi)
" *Olenus* " *argentinus* Kayser
Parabasilicus aff. *typicalis* Kobayashi
Parabolina andina (Hoek)
Parabolina sp. (Kobayashi)
Parabolinella argentinensis Kobayashi*
Parabolinella aff. *shinetonensis* (Raw)
Parabolinopsis mariana Hoek
Peltura sp. (Lake)
Phalacroma atuberculata Kobayashi*
Phalacroma iruyensis (Kayser)
Plethometopus microphthalmus Kobayashi*
Plethopeltis hyeronimi (Kayser)
Plethopeltis lorenzi (Kayser)
Plethopeltis megalops Kobayashi*
Protopliomerops punctulifera Kobayashi*
Pseudagnostus (*Rhaptagnostus* ?) *semi-ovalis* Kobayashi*
Pseudobasilicus liquensis (Hoek)
" *Ptychoparia* " sp. (Kobayashi)
Saukia (?) sp. (Bulman)
Shumardia erquensis Kobayashi*
Thysanopyge argentinus Kayser
Triarthrus cf. *eatonii* Hall
Triarthrus aff. *fischeri* Billings
Trinucleus boliviensis Lake
Trinucleus kruegeri Hoek
Trinucleus nordenskiöldi Bulman
Xenostegium saltensis (Kayser)
Xenostegium brackebuschi (Kayser)
Ostracoda
Leperiditia sp. (Kayser)
Conchostraca
Technophorus otaviensis Kobayashi
Phyllocarida
Lingulocaris acuta (Bulman)
Incerta Sedis
Boliviana bipennis Salter

Boliviana melocactus Salter
Boliviana proboscidea Salter
Cruziana carranze Balta
Cruziana curcubites d'Orbigny

Cruziana furcifera d'Orbigny
Cruziana rugosa d'Orbigny
Cruziana unduavi Salter
Scolithus (Kayser and Steinmann)

The descriptions of the 26 new species marked above by asterisks and revisions on many of the previously described species will be given in another paper by the author now ready for the press. Preceding this publication a brief description of only three new genera and one new subgenus of trilobites will be given here.

Asaphelloides, new subgenus

Diagnosis:—*Asaphellus* with a slightly forked hypostoma. (fig. 1).

Genotype:—*Megalaspis* (?) *americana* Hoek (partim).

Lakaspis, new genus

Diagnosis:—Cephalon semicircular, bordered by strong brim; glabella outline distinctly contracted near front where eyes are opposed; occipital ring distinct. Pygidium subtriangular in outline; articulating segment and conical axial lobe well marked by furrows.

Genotype:—*Symphysurus apolinista* Lake (Monotypic).

Leiostegina, new genus

Genotype:—*Leiostegina inexpectans*, new species (Monotypic). (figs. 3-4).



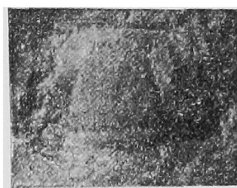
1



2



4



3

Explanation of Figures.

- Fig. 1. *Asaphellus* (*Asaphelloides*) *americanus* (Hoek). $\times 2$
 Fig. 2. *Megalaspidella kayseri* Kobayashi. $\times 1$
 Fig. 3. *Leiostegina inexpectans* Kobayashi (holotype). $\times 1\frac{1}{2}$
 Fig. 4. *Leiostegina inexpectans* Kobayashi (paratype). $\times 2$

Description :—Cranidium subtrapezoidal; glabella long, truncato-conical, smooth except for occipital furrow; eyes small, at mid-length of cranidium; fixed cheek narrow; no frontal brim; facial sutures parallel anterior to eyes and diagonal posterior to them. Pygidium convex, relatively small, its posterior margin bent up at middle; axis conical, divided into ca. 8 rings; marginal brim narrow, ill-defined.

Formation and locality :—Greenish sandstone, west of Otavi, Bolivia.

Megalaspidella, new genus

Genotype :—*Megalaspidella kayseri*, new species (= *Megalaspis* sp. Kayser, 1897).

Diagnosis :—Megalaspid with smooth conical glabella, large middle eye, concave border, genal spine, and isoteliform facial suture on cephalon (fig. 2); pygidium subtrapezoidal, surrounded by concave border, and its axis multisegmented.